To: Daly, Eric[Daly.Eric@epa.gov]; Jimenez, Christopher[Jimenez.Christopher@epa.gov]
From: Nguyen, Lyndsey
Sent: Thur 10/6/2016 4:40:20 PM
Subject: RE: NFB-Very important-Soil acceptance criteria/excavation

You boys love it!

Lyndsey

Lyndsey Nguyen

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From: Daly, Eric
Sent: Thursday, October 06, 2016 9:35 AM
To: Jimenez, Christopher <Jimenez.Christopher@epa.gov>
Cc: Nguyen, Lyndsey <Nguyen.Lyndsey@epa.gov>
Subject: RE: NFB-Very important-Soil acceptance criteria/excavation

Thanks Chris. After this week, does your brain hurt yet?

From: Jimenez, Christopher
Sent: Thursday, October 06, 2016 11:53 AM
To: Daly, Eric <Daly.Eric@epa.gov>
Cc: Nguyen, Lyndsey <Nguyen.Lyndsey@epa.gov>
Subject: RE: NFB-Very important-Soil acceptance criteria/excavation

Eric I also talked to Lyndsey regarding the mixing approach. What I am going to do is, get

volume information from all the pieces of equipment and containers that we could conceivably use for different excavation methods. Other than to say that using super sacks would not be preferable for cost reasons, I will not offer my opinion on how to accomplish this operationally, that's your call.

Look below for status updates on your individual bullets in Red .

Let me know if there is any other information that I can help put together before I leave tomorrow.

From: Daly, Eric
Sent: Thursday, October 06, 2016 10:10 AM
To: Nguyen, Lyndsey <Nguyen.Lyndsey@epa.gov>; Jimenez, Christopher <Jimenez.Christopher@epa.gov>; Kappelman, David <Kappelman.David@epa.gov>
Subject: NFB-Very important-Soil acceptance criteria/excavation

Good Morning:

I spoke with both Chris and Lyndsey yesterday. One of the topics was the next steps in survey, sampling and excavation in Area 5. Also discussed was how we need to proceed carefully with the excavation process as it relates to preparing our procedure for proving we meet US Ecology acceptance criteria. Below is the order of activities as I understand it along with some food for thought.

1. We will be sampling in Area 5 as per Lyndsey/Dave technical guidance (10/06/2016 through 10/07/2016). We have selected 5 sample locations based on yesterday's scan and in consultation with Lyndsey and

Dave. These 5 locations will each yield 4 samples. We will be going down 2 ft, 1 sample every six inches. Three of the five locations are in areas that were identified as hottest from Dave's scan. Additionally, there is one medium and one lower level sample location.

2. We will scrape the upper layer of trees, rocks, etc., located above surface level and pile within Area 5 (10/06/2016 through 10/07/2016). John completed the gross scrape of area 5, removing large pieces of concrete and debris. I was very concerned about him actually moving dirt, so I made it clear to only remove surface obstructions (no dirt moving).

3. The next steps need to be discussed/finalized with OSCs, ERT and Weston prior to GES performing further excavation

a. We need to identify how we are going to prove our material being shipped meets US Ecology acceptance criteria

b. This criteria directly affects how we excavate

i. what areas and how much of an area is excavated

ii. which depths are going to be excavated at a time

iii. how we segregate/containerize/sage the depth levels

1. This is most important because it appears we need to identify the higher elevated soil and separate from the lower level rad material/background soil.

2. Since the majority of our elevated material is in rock form, we cannot truly mix/blend/homogenize the waste. So sampling a pile of mixed up rock and soil does not necessarily provide us with a homogenized sample that will pass the criteria. We could easily avoid rocks in sampling and pass or take a lot of rocks and fail.

3. The proposal on the table from Lyndsey is to find out the worst case hot spots on the site (preferably using removal data and not pre-remedial since they did not do the 21 day). Then calculate how much of the lower

level rad material/background soil ratio needs to be to pass the acceptance criteria. Dave and Lyndsey, please discuss to present to us a viable plan to present to US Ecology. Hopefully the samples from area 5 taken today will help you identify the worst case hot spots, 3 of the 5 locations we will be sampling are the hottest based on Dave's survey. One of the locations appears to be a pile of slag so that may be helpful also.

4. If we come up with these worst case scenarios, then we can have a standard procedure throughout the site.

5. I am not sure if our concept is accepted, if there would need to be any sampling per pile to be loaded. It would be assumed that our blending methods would be sufficient.

6. If our top layers are the highest (1-6 inches) and our next layers (6-24 inches) are considerably lower….we would need to sample and get those exact values in each area to determine that ratio, no? Area 5 may contain just hot spots without that overall top layer of elevated material. Behind the parking lot could be uniform low level rad. The parking lot appears to be a consistent layer of top layer hot and lower layers cleaner. So I would think our proposal is to approach each area as one unit, use the same concepts but get a new ratio based on data. That would kind of mimic the pile sampling but instead we are area sampling.

7. If someone has a different idea, please present to the group.

4. Disposal of the existing containerized material from GNBC Office Area

a. This material is obviously excavated and staged already, so we are limited on what we can do.

b. We believe we can get a good idea of which cubic yard boxes contain the upper layers/higher level material since the boxes are labeled and have individual information associated with them in our Weston records. I will ask RST to try and identify which boxes may be the hottest.

c. Lyndsey recommended using the data acquired from the office area as well as new sampling in the parking lot to determine the soil/asphalt mix ratio for the parking lot, office area and any other area with asphalt adhered to the slag. So we would need to identify hot spots in the parking lot (recent gamma scan already performed) and take some soil samples to

determine worst case blending ratio. This way we would have a ratio proposal for both matrix we have here (slag mixed in soil and slag adhering to asphalt mixed with soil).

Regards,

Eric

"We must, indeed, all hang together, or assuredly we shall all hang separately", Benjamin Franklin

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